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ABSTRACT

This study investigated teachers' emotions as they prepared and administered test feedback sessions related to exams delivered in undergraduate educational psychology courses. Qualitative methodology was used to gather data over two semesters, using grounded theory to collect and analyze data. Seven instructors were observed and interviewed regarding their beliefs about upcoming test-feedback sessions and past experiences with such sessions. Following the feedback sessions, instructors were interviewed about their reactions to the session. Several students were also interviewed about their reactions. The test-feedback sessions evoked high levels of emotionality from instructors and students. Instructors held similar beliefs about feedback sessions, which, when added to past feedback experiences, shaped their expectations for future sessions. These expectations led to various strategies for preparing for upcoming sessions. During the sessions, teachers closely monitoring students' emotional responses, experienced strong emotions while delivering feedback, and attempted to implement classroom procedures to deal with their own and their students' emotions (privatizing sessions, discussing other test items, and having other students discuss problematic items with them). Instructors wished to avoid negative confrontations, but they wanted minimal levels of response from students and were frustrated by low levels of response. (Contains 17 references.) (SM)

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TEACHERS AND TEST FEEDBACK

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Testing is an ubiquitous part of college coursework in the United States. In addition, many college instructors, as part of their testing procedure, allocate class time in order to discuss the exam with students. During such a test-feedback session an instructor might discuss how the exam was graded and address common misconceptions which students had on the exam. The instructor may also choose to respond to students' questions about given items or to requests for clarification about particular concepts. The objectives of the feedback session in most cases are two-fold; to provide information about the student's achievement, and to provide an opportunity for students to learn from their mistakes on the exam. Recent studies (Kulhavy & Stock, 1989; Mory, 1992), however, have found that feedback has limited effects on subsequent student achievement. Other investigators (Gagne', Cruttcher, Anzelc, Geisman, Hoffman, Schutz, & Luzcano, 1987; You & Schallert, 1992) have suggested that students' emotional responses might limit the extent to which they are able to process an instructor's verbal comments and feedback.

Tests are commonly perceived by students as stressful events and student's test anxiety has been the focus of study of a number of investigators (e.g.. Sarason, 1980, 1984; Weinstein, Cubberly, and Richardson, 1982; Wine, 1980; 1982). However, *teacher anxiety* towards administering tests or delivering test feedback has not been investigated. In general, little research has been conducted on teachers' emotions in the classroom: studies have tended to focus on teacher's planning, cognition and classroom management strategies and have not investigated the role of teacher affect when delivering test feedback to students.

The present study investigated teachers' emotions during the preparation and administration of a test feedback session in connection with exams delivered in an undergraduate educational psychology course. The research questions for this study were as follows:

1. To what extent do instructors experience emotional stress when delivering test feedback to students?
2. What other emotions do instructors experience when delivering test feedback?
3. What, if any, coping strategies do instructors use to manage their own emotions and those of their students?
4. What kinds of beliefs do teachers have about displaying their emotions to students during a test-feedback session?
5. Do students perceive teachers' emotions during test-feedback sessions?
6. How do instructors respond to demonstrations of student emotionality in the classroom?
7. How do an instructor's past experiences shape the way they choose to deliver test feedback?

Theoretical Background

Several lines of research form a loose framework for considering the phenomenon of teachers' emotions and test feedback. Models of students' processing of exam feedback (e.g., Bangert-Drowns, Kulik, Kulik & Morgan, 1991; Kulhavy & Stock, 1989).have typically focused on feedback or student characteristics as the primarily influences on the effectiveness of exam feedback. Feedback characteristics have been found to be particularly salient with respect to students' increase in knowledge. Intentional feedback, in which the feedback is designed to inform the student about the appropriateness (quality, correctness, etc.) of his or her performance, typifies most traditional instructional settings (Bangert-Drowns, Kulik, Kulik & Morgan, 1991). Aspects such as the amount of delay in giving feedback (Kulik & Kulik, 1988), whether feedback was self-referenced or norm-referenced (Bender, 1992), and the amount of elaboration communicated in the

feedback (Pridemore & Klein, 1992), have been found to be characteristics which influence students' learning in a feedback situation.

In addition, there have been a plethora of investigations that have examined the causal effect of students' anxiety about testing on subsequent academic performance (e.g.. Sarason, 1980; Wine, 1980). The majority of these studies have demonstrated that highly test-anxious students have debilitated levels of performance under conditions of high evaluative stress, but when stress is absent, perform at a slightly higher level than do their low-anxious peers. While this research focuses on test-taking as their focus, it is reasonable to assume that student anxiety is also present in test-feedback situations.

Smith (1991) has found that teachers, as well as students, experience negative emotions about tests. In her qualitative study of junior high school teachers, she found that teachers expressed emotions such as shame, embarrassment, guilt, and anger, after their class' standardized test scores were publicized. Smith also found that during testing, "many teachers themselves feel anxious, worrying about whether they have adequately prepared their pupils for the test...and whether there will be incidents of emotional distress." She noted that, in response to having experienced or heard about these types of emotional responses from students, teachers implement a number of strategies to prevent them. Clark and Peterson (1986), in their summary of findings on teacher's interactive thoughts, suggest that teachers spend most of their time in the classroom thinking about what their students are understanding and how they are responding to instruction. It seems that, similarly, teachers in a test-feedback situation would be concerned with students' reactions to the session and to the feedback that they are receiving.

Lazarus (1984) has observed that there is a wide variation in how people respond to threatening and potentially stressful events. In his primarily cognitive view of the stress and coping process, an appraisal of a potentially stressful event is

made, along with the consideration of possible coping strategies, and a review of past attempts to cope with the stressful event. The individual may also engage in problem-focused coping, which is a behavioral strategy that attempts to reduce the threat itself. Coping shapes subsequent emotion (Lazarus, 1991) and consequently how an individual will react in a future situation.

Given the interactive nature of teacher cognition in the classroom, it seems likely that teachers would cognitively monitor students' responses to the test feedback which they give in class. Although research is limited with respect to teachers' affect, testing situations seem to be particularly emotionally charged for both student and teacher. In response to the potentially stressful event of testing and providing test feedback to students, it would seem likely that teachers would draw upon past experiences and engage in strategies to cope with their own and students' emotions in feedback situations.

Method

The focus of this study was on teachers as they delivered test-feedback to their classes following the administration of an exam. Qualitative methodology was used to gather the data over the two semesters in which the study was conducted. Specifically, we used grounded theory (Glaser & Strauss, 1967; Strauss & Corbin, 1991) as a method by which to collect and analyze our data. In a grounded theory approach, data collection and analysis is intermingled throughout much of the investigation in an interactive manner. For this study, we used data gathered in the first semester to guide the data collection and analysis during the second semester of the study and to verify an initial analysis of the first semester data. Cases that we gathered during the second semester of the study were added to cases collected during the first semester to strengthen the findings from the first semester of the study.

Subjects

Seven instructors participated in this study. Each of the instructors taught a section of approximately 25 undergraduate students enrolled in an introductory course in Educational Psychology that focused on learning strategies. Each of the instructors covered the same content, used the same text, and administered the same exam in their individual sections of the course.

The study took place during the spring semesters of 1992 and 1993. In the first semester of this study, four instructors were interviewed and observed. Two of these instructors were "experienced instructors" in that one had previously taught the course for nine semesters, while the other instructor had taught the course for seven semesters. The other two of the instructors were relatively "inexperienced instructors;" in that one had taught the course only once, while the other instructor had not previously taught the course. In each set of instructors, one instructor was male and one was female. All of the instructors were graduate students in educational psychology.

In the second semester of this study, the male "inexperienced instructor" from the first semester, who we called "Ron," again participated, along with three additional instructors. Two of the new instructors (one male, the other female) in the second semester sample were "experienced instructors," in that they had taught the course for more than three semesters. The other instructor, a woman, had not previously taught the course. Again, all of the instructors were graduate students in educational psychology.

Procedure

During the first semester, the four instructors were interviewed once before the first exam of the semester was administered and once following the exam. Each interview included, but was not limited to questions developed before the interview. These questions focused on their thoughts and feelings concerning the

upcoming test-feedback session and their past experiences in conducting such sessions.

After each class took their exam, the instructors scored the exams and then returned the exams to the students during a designated test-feedback session. These class sessions had been set aside as "labs" in order that the instructor might discuss the results of the exam and to go over test items. Observations were made of each of the four instructors during these test-feedback sessions. Following these sessions, each instructor was interviewed about his or her reactions to the exam feedback session. In addition, at least two students from each class were contacted by telephone. Students were selected on the basis of their level of participation during the test-feedback session. A student who had interacted with the instructor during the feedback session and a student who had not were interviewed by telephone. These interviews lasted a duration of ten to thirty-five minutes during which students were asked about their general reactions to the test-feedback session.

During the second semester, four instructors (including one of the "inexperienced instructors" from the first semester) participated in the study. During this semester, we observed and interviewed each instructor during both of the test-feedback sessions that occurred during the semester. First, we observed each instructor twice before the first test-feedback session of the semester. One of these observations was of a typical class session, while the other was of the review session the held before the instructors administered the test. We also interviewed each instructor using questions that were, for the most part, the same as those as we used in the first semester, however we added several questions of interested based on our initial analysis of the data.

Following the administration and grading of the test, the observers attended the test-feedback session, as previously described. Again, the observers recorded their observations and recorded an audiotape of the session. The notes and tape

recordings were then compiled into a single observational record. As soon as possible after the observation, the instructors were again interviewed.

Approximately six weeks after the first interview, we again observed the review session that immediately preceded the second test of the semester and interviewed the instructor. We again then observed the test feedback session held by each instructor was again observed and again interviewed the instructor.

Analysis

After the first semester of this study, the interviews with each instructor and the an observation of a feedback session were analyzed. Each interview was recorded and transcribed. All test-feedback sessions were recorded and compiled with observational notes made during the session. Data analysis used coding procedures described in Strauss and Corbin (1990) and the constant comparative method (Glaser & Strauss, 1967). Comparative analysis was used in order to develop a tentative theory. Thus, data collection, coding, and analysis were intermingled.

All interview and observational transcripts were analyzed using open coding wherein data was examined, compared, conceptualized, and categorized (Strauss & Corbin, 1990). The interview transcripts were analyzed using a line-by-line analysis. Observational transcripts were analyzed as entire documents. Each instructors' transcripts were initially analyzed separately. Conceptual labels were formed from each transcript and tallied. Concepts were then grouped together to form tentative categories. Several tentative phenomena emerged from this initial open-coding analysis; students' affectual responses to the feedback session, teachers' procedures developed for sessions, teacher's management of students' emotions, and teachers' emotions towards feedback sessions. The later phenomenon emerged from the data as the most salient category, both in terms of frequency of references to it made by the instructors and as the phenomenon with the richest source of properties. At

this point, analysis was focused on "teacher's emotions concerning test-feedback sessions" as the central phenomenon.

Axial coding was used to determine overarching categories (see Results) and connections among these categories. Categories established in open coding were identified as denoting causes/conditions, contexts, action/interactional strategies, intervening conditions and consequences of the phenomena of teachers' emotions in the test-feedback situation.

Selective coding was used to relate the core category of teacher emotions and to relate it to the other categories which had emerged from the data. The story line of the central phenomenon was written and subsidiary categories were related around the core category of teachers' emotions. The core category was developed in terms of its properties and its dimensional range and other categories were related to this core category. Finally, the theory of Teachers' Emotions about Test-Feedback Sessions was laid out (see Diagram #1).

Results

Teachers' emotions played a central role in test-feedback sessions. While the instructors viewed test-feedback sessions as a potential learning experience, the majority of their references to the sessions were affectual, rather than cognitive in nature. Depending upon the past experiences that an instructor had in giving feedback, an instructor formed certain expectations about the potential emotionality surrounding an upcoming test-feedback session. These expectations, along with beliefs the instructor had about the exam, and the goals which s/he had for the test-feedback session interacted to affect emotions which the instructor experiences about the feedback session. These emotions shaped the way the instructor prepared for test-feedback sessions, the procedures they used in giving feedback, and the type and tone of communicational patterns in which they participated. These teacher

strategies and actions then affected the amount of student interaction and affect displayed during the feedback sessions. When students were dissatisfied with the feedback they received, they tended to confront the instructor, and, depending on the instructor's ability to manage the interaction, student affect was suppressed or it escalated.

The following section describes the major categories which emerged from the data and the relationship of these categories to the central phenomenon of teachers' emotions:

I. **Past experiences** about feedback sessions

Instructors who had previously taught the same course could readily identify a confrontation they had had with a student during a test-feedback session.

Lewis "..judging what they've been like in the past, I think I know what to expect. And, what I expect are some students who are unhappy with the questions.:

Katherine: ""I had one guy who was just positively belligerent and argued most every question and got the whole class going and so I decided that that wasn't going to work either..."

The two less experienced instructors referred to negative experiences which their peers instructors had encountered.

Maria: "I just didn't know what to expect- other than this view of, "Watch out- they, they grow teeth!""

Ron: "..some people talked about...about slamming doors...so I've kind of got a flavor for what sorts of things might happen."

Many of the experienced instructors spontaneously referred to comments they had received in the past on course evaluations from students about the way in which they graded test items.

Lewis: ""Well, they stayed angry to the end, and, I mean, it showed up on the course evaluations...it showed up..."

Katherine: "I think that I grade harder than everybody else does. In fact, I had several comments on that the last evaluation on how I graded the essays...""

II. Expectations about the upcoming feedback session

The past experiences that instructors had had shaped their expectations about the upcoming test-feedback session. These expectations consisted of the following two subcategories:

Students' characteristics seemed to be salient for instructors who had previously taught the course. Those students who exhibited boredom or inattention during class were students who these instructors felt were more likely to confront them during test-feedback sessions. The expectations of the upcoming session varied given the amount of **accountability** they felt for the exam. They expressed different levels of commitment to and responsibility for the exam, which was jointly constructed among up to ten different instructors They referred to the extent to which they had contributed to the exam construction and to their perception that the exam was or was not an accurate measure of the content taught in the course. Instructors differed,

however, in how they saw this ownership for the exam affecting the form in which they communicated feedback to their students.

Ann: "But, uh, as far as, I would suspect that the ones that generally speak in class right now more often would be the ones that might bring up questions about it just because they seem to be more motivated to get on track with, with their studies."

Katherine: "...I don't feel any ownership over these exams at all, they're not mine, and maybe if they were mine I would, I would, be able to argue more strongly for them.."

Ron: "I'm detached kind of from someone else blowing up over something that I'm not personalizing. I just don't really own this test. Like I say, for better or worse, it's just not mine.""

Accountability was also expressed with regard to how the instructor felt he or she conducted the feedback session. Even the most experienced of the participating instructors, expressed anxiety about their ability to clearly communicate to their class why correct alternatives were correct, and why other alternatives were incorrect. They attributed this anxiety to feelings of ambivalence about their level of knowledge about the course material or to their inability to "defend" questions which they themselves had not written.

Lewis "...I would assume that perhaps I was the reason for their anger, in the sense that perhaps I wasn't clear enough on the point when I taught that..."

Maria: "I could, on an intuitive basis, see where one item was better than the others. I don't feel that in all cases I could explain why other answers were wrong..."

Ann: "I don't really have any apprehension as long as I feel like I understand the question and I feel like I adequately covered it and I can explain why ."

II. **Beliefs about test-feedback sessions**

Instructors had certain beliefs about the test-feedback sessions that they were conducting. This category was an overarching category which was comprised of the following four subcategories:

View of the exam as a learning tool:

Instructors believed in the potential of the exam as a learning tool. They expressed the desire that students gain additional knowledge by reviewing the exam and reflecting over their errors.

Ron: "I do believe that here is a lot to be learned from taking a test and finding out what you did on it.""

Christi: "...I rally think it's important for students and, and this is my personal style, uh, I think it's really important for students to understand why, why they missed a question. And so part of defending your answer is working those things out, uh, for yourself and that's why I allow that much expression in the test feedback session."

Interestingly enough, none of the twelve students interviewed in the first semester of this study believed that they had learned anything from the feedback session. At times they expressed the belief that their emotionality inhibited their ability to do so.

Maria's student: "No. I really honestly don't think I did. I think part of it was I was so angry that I couldn't pay attention. I know what I got wrong but I really didn't concentrate more. I think it will be better when I can go in and I am calmer. Maybe a little about how to take the test, right now I haven't really thought about it. If I had examples I couldn't tell you. It is really frustrating.

Lewis' student: "I don't think I learned anything about the content at all. Usually I get a lot out of feedback sessions, but I just got confused. Along with a lot of the other students I started arguing, and all of the other students were just as confused as I was.

Students negative emotions interfere with their cognition:

All of the instructors seemed to believe that intense, negative and/or escalating emotions could interfere with students' abilities to process the information which they received in the feedback sessions. They believed that, in a confrontation with a student, the student might be impaired in his or her ability to "argue their point."

Katherine: "...I think that it gives them an advantage because it gives them a chance to cool down and to think about they they think this is the right answer and they present themselves better than if they are angry...""

Ron: "...all have their own emotional content too, they are sitting there with so I imagine a lot, whatever was being said would be just going right over, not connecting at all."

Dislike of expressing negative emotions in class:

Although all of the instructors verbally expressed negative perceptions about negative, escalating emotions emanating from students, they asserted that they did not think that they themselves expressed these emotions in the classroom. To do so was seen by the instructors as being inappropriate. Their students verified that this masking of emotion was done successfully; they did not report observing their instructors becoming emotional during the session.

Maria "...he was getting angrier and angrier, and the rest of the class was just sitting there. ...I said, 'Write it down.' And then he did, he back off, but I was also being, but I had on my best "power suit" on, and was being, very business-like, very managerial.""

Maria's student: "She was just the same."

Lewis: "-so they get angry. ...I suppose I would try to be very calm, outwardly.""

Lewis' student: "He was really cool and didn't get upset and everyone could state their point of view.""

IV. Goals for the test-feedback session:

Instructors had goals they wished to accomplish during the test-feedback session. This category was an overarching category which was comprised of the following three subgoals:

To deliver test feedback to the class

All of the instructors had the goal of delivering feedback to their students. However, they wished to do so **without negative confrontations.** All of the instructors with previous experience expressed the desire to avoid confrontations and conflicts with students in the test-feedback session. In the first interview, the novice instructor, while he did not verbally express a particular dislike for these types of interactions, demonstrated observable irritation when he was confronted by a student during the feedback session.

Maria: "I don't deal real well with anger, ok? That's, that's part of it- I am very conflict averse (laughs) and I just don't like that conflict...""

Katherine: "I HATE test-feedback day, I really do- particularly after the first exam."

Incidents which instructors reported as being negative contained elements of intensity and escalation. Instructors wanted to avoid situations in which several students at once would confront them or students who were hostile or belligerent during the feedback session.

Lewis: "...that was, I guess, an example of when the whole class begins to say, 'Yeah she said this, she said this, she said this,' and so then, all of a sudden,

you do have your 30 angry students, you know, bitching first about that one question, then about any other one that they missed points on. So it actually turned quite ugly.""

Katherine: "...one particular semester...I had one guy who was just positively belligerent and argued most every question and go the whole class going and so I decided that that wasn't going to work..."

Despite their desire to deliver test feedback without confrontations, the instructors were not satisfied with test-feedback sessions in which there were *no* interactions with students. They repeatedly questioned their students during the sessions, requesting input from their students, and their reactions to the exam. When an instructor felt that there was not a sufficient level of interaction from the students, he or she expressed frustration:

To increase student understanding

The instructors we interviewed believed that the purpose of the test-feedback session was not only to inform students about their performance on the exam, but to increase their understanding of the content of the course.

To reinforce student's test-taking strategies

A third goal that teachers had for the test feedback sessions was to increase the student's test-taking strategies. Part of this goal was a result of the focus of the course itself, increasing student's learning strategies was an objective of the course.

Christi: "I wanted them to reflect on their test-taking strategies."

V. **Context**

Three elements of the context in which the phenomenon took place were particularly salient. First of all, the instructors were concerned about the level of interaction that occurred during the feedback session. While one of their goals for the session was to avoid negative confrontations, they also believed that the feedback sessions also functioned as a learning experience for the students. As such, they actively sought out student participation during the feedback sessions. Second, the test-feedback sessions occurred publicly, rather than on a one-on-one basis between teacher and student. it was apparent, based on both observed behavior and comments, that the publicness of the forum in which the test feedback had a tendency to heighten the emotionality with which the test was debated. Finally, in a broader sense, the feedback sessions were part of the larger context of the class as a whole. As each class was a separate section of a multi-sectioned course, all of the instructors *had* to administer a test-feedback session, which was written in as part of the course syllabus. In addition, the course was designed to assist students in incorporating new learning strategies into their repertoire of study skills. The test-feedback session, therefore, also was seen as an opportunity by the course instructors to assess test-taking strategies with the students.

Ann: "...so I didn't want to have to defend that kind of an issue in the class setting, I'd rather do it in a small group ..."

VI. **Intervening Variables**:

Three variables seemed to mediate the extent to which strategies were implemented during the test-feedback session. The instructors **rapport with**

students influenced the level to which the instructor felt comfortable entertaining questions from students and the extent to which s/he implemented strategies to avoid students' negative confrontations. Rapport with students could also result in classroom interactions in which some students actively *supported* the arguments the instructor was giving for how an item was graded. In these interactions, the student would address another student who was engaged in a verbal confrontation with the instructor and explain, according to his or her viewpoint, what was justification for the item being graded as it was. It was of great interest to us that these student-to-student interactions seemed to quickly de-escalate a negative confrontation between the instructor and the student. In addition, students seemed surprisingly accepting of their peer's explanation of an item, even thought it was occasionally the case that their argument was quite similar to the explanation previously given by the instructor. Instructors were also more likely to take into **consideration students' viewpoints** when they were ambivalent about the extent to which the exam tested pertinent course content and whether they perceived certain items as being problematic. The extent to which they considered a student's viewpoint was also influenced by the previously discussed expectations that the instructors had about an individual student.

VII. Strategies and actions which instructors implemented to manage the expression of emotions during the test-feedback session:

Procedures and classroom management:

In feedback sessions which went more smoothly, instructors had an assertive, "take-charge" demeanor. They wasted little time in making a transition from their introductory remarks about the exam to initiating discussion about the exam content. They had a clear procedure for discussing the exam and

moved smoothly from item to item in discussing the multiple-choice section of the exam. There was also a clear sense of group focus in these sessions and a proportionately higher amount of class time spent on teacher discussion of the exam. In contrast, the instructors who were less definite in their procedures and who were less assertive about taking control of the class, conducted feedback sessions which went less smoothly, and tended to become engaged in individual interactions with students.

Preparation for the test-feedback session:

Several of the instructors had obviously prepared extensively for the session. Their preparation included reviewing results of the exam to pinpoint problematic items, reviewing items to pinpoint common errors which students had made, calculating the distribution and descriptive statistics for the class. These instructors were then more easily able to structure their feedback session and discussed difficult items with greater precision. Two instructors who had not been able prepare as extensively for the feedback session took proportionately more time in distributing exams and in making introductory remarks about the overall class performance. They tended to overdwell on problematic items during the class discussion instead of having concise explanations prepared for students.

Privatizing the interaction with the student was another strategy that instructors employed in an attempt to manage escalating interactions with students. The instructors were sensitive to the public nature of the feedback sessions. When an interaction with a particular student became too heated or prolonged, the instructors tended to privatize the interaction, either by suggesting that the student come by their office to continue the discussion, or

by asking that the student write down his or her comments so that their point could be considered at a later date. Occasionally these suggestions were accompanied by a remark about the need to "move on" or to the limitations of time the class had for discussing the exam.

Types of **communication** in which the teacher was willing to engage in with students:

Although some of the instructors expressed the perception that they needed to "argue for" or "defend" the test, other instructors which had more smoothly run feedback sessions did not do so in their feedback sessions, nor did they need to do so since their preparation and management strategies proactively countered potential student questions. Communication of correct answers was factual in nature, with little or no conciliatory overtone. In these sessions, communication was marked by its clarity when discussion of each item and a structured approach to explaining it. However, while these sessions tended to be run smoothly, there was markedly less verbal interaction between the students and the instructor. In contrast, two of the less smoothly run sessions were characterized by repeated attempts by the instructors to negotiate with the students and persuasive techniques to justify why keyed items were correct.

VIII. Consequences of strategies and actions implemented by teachers during the test-feedback session:

The level of **student participation** differed depending on the extent to which instructors implemented procedural, preparation and communicational strategies. The instructors who were more assertive in their management of

the feedback session receive a lower level frequency of questions from students and less overall student verbal participation. These sessions, according to the first semester interviews with students, tended to have higher **student satisfaction** with the session and little, if any, exhibitions of student hostility or escalations of negative emotions. There seemed to be highest **teacher satisfaction** with sessions that, while they did not contain negative confrontations between students and the instructor, did have a minimal level of student participation. Rod expressed great frustration with his class second semester in when almost no student interaction occurred. The two instructors who implemented the procedural/management and preparation strategies to a lesser degree exhibited more behavioral signs of stress, and their students seemed less satisfied with the feedback session. However, in these classes, there was a higher level of **student participation** in terms of both intensity and in students' expressions of hostility and frustration during the session. These reactions seemed to increase the likelihood of other students exhibiting similar emotions and of consequent escalation of negative student-teacher interactions and the contagion of these emotions to other students.

Ann: "...all, a lot of class people would participate in giving their reasoning on why this is right. It's like pulling teeth sometimes to get these kids to talk and so, um, my ideal test session would be, feedback, sort of the whole idea behind the group thing but having them, you know, work right and maybe we could even have it in a whole group kind of thing, you know, where a different person would answer."

A model of Teachers' Emotions during Test-Feedback Sessions

Figure #1 illustrate the relationship among the phenomenon of teacher's emotions, their causal conditions, the intervening variable, the action/interaction strategies which are implemented, and the outcome variables. The causal conditions are multiply defined, as are other levels of the model. Depending on the consequences of the coping strategies implemented by the instructor to control his or her own emotions and those of the class, emotions were constrained, or escalated in the test-feedback sessions.

Discussion

As found by Peterson and Clark (1986) the instructors in this study reported a high level of interactive thought about their students, however, comments were more frequently made about the *affective* features, rather than the cognitive aspects of student thought. Findings were also consistent with Smith's (1991) findings in that the instructors, as well as students, experienced negative emotions in response to testing situations. The experiences the instructors had had previously in feedback situations, and the beliefs they held about the purpose of giving feedback on the exam itself shaped their expectations for upcoming sessions. Based on these expectations, the instructors implemented strategies for preventing the expression of these emotions in their students, while simultaneously attempting to meet their goal of making the feedback session a learning experience.

These test-feedback sessions appeared to be quite stressful for the instructors in this study. Parts of Lazarus' (1984) model of coping with stress seems appropriate for interpreting the strategies and behaviors the instructors exhibited in the feedback sessions. Instructors reviewed past events, such as previous test-feedback sessions or the experiences of others, and actively considered various coping strategies, to use when delivering feedback. In discussing previous test-feedback sessions the

instructors usually referred to a past negative confrontation that had occurred with a student and discussed how these experiences had affected the format they presently used to give feedback to students.

In interviews that were conducted with students during the first semester of this study, students expressed negative emotions connected with the feedback sessions. Even student who were not verbal during the feedback sessions later expressed being "angry," "too upset to talk at all." While one of the goals that instructors had for the test feedback session was to increase students' knowledge in the content area, students themselves did not believe the session was of instructional value. Students claimed that they learned little during the feedback sessions, although they did believe the information provided during the session would help them be more successful on subsequent exams in the class. A possible explanation might be, as was found by Gagne', et al., (1987) and You & Schallert (1992), that the strong emotions these students experienced during the feedback session interfered with their ability to learn from the instructor's comments during the session. This finding suggests that there is a need to reexamine the role of providing extensive test feedback in a whole-class group format. The strategy that many of the instructors in this study used, that of privatizing the feedback given to a student, might be a more effective manner in which to circumvent the high level of emotionality that occurs in these sessions.

In summary, test-feedback sessions evoked a high level of emotionality from both students and instructors in this study. The instructors we observed held similar general beliefs about feedback sessions which, when added to the past experiences they had had in giving feedback, shaped their expectations of future feedback sessions. These expectations led to a variety of strategies that the instructors used in order to prepare for an upcoming feedback session. During the actual feedback session, instructors closely monitored student's emotional responses

during feedback sessions (primarily with respect to student cooperation with and resistance to the test feedback session), experienced strong emotions personally while delivering test-feedback sessions, and attempted to implement classroom procedures to deal with both their own and their students' emotions in the feedback situation. Some of the strategies they used in order to deal with these emotions included privatizing the interactions with the student, moving on to another test item in the discussion, and allowing other students in the class to discuss problematic items with each other. However, while the instructors in this study wished to avoid negative confrontations, they also wanted a minimal level of response from students during the session, and were frustrated by a low level of student response. The emotionally rich and charged findings from this investigation suggest that further exploration of teachers' emotions in the classroom is a fruitful area for future research.

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